

IN THE SPECIFICATION:

Amend paragraph 1 starting at line 10 of page 17 and ending at line 24 of page 17 as follows:

A novel rotary cell sample collector 100 for space-flight applications (see Figures 7, 9, 12, and 13) provides the capability to collect and fix cell samples upon demand via telemetry or pre-programmed time lines. The rotary cell sample collector 100 utilizes two plates 102 and 104 clamped together at their centers and sealed with a grease such as vacuum grease or other low solubility and low vapor pressure grease such as a silicone grease. The lower plate 104 remains stationary while the upper plate 102 is rotated by the stepping motor 106. The upper plate 102 is rotated by a two-phase flight-proven stepping motor 106 that provides precise control for proper alignment. The cells and medium exit the reactor vessel 20 at the lower rotary union 1 on the unfiltered side after additional medium is added upstream to the cell growth reactor 20. Then, the cells and medium pass thorough the microscopic observation slide 90, and then on the rotary cell sample collector 100.

Amend paragraph 2 starting at line 25 of page 17 and ending at line 7 of page 18 as follows:

The cells and medium enter the rotary cell sample collector upper plate 102 at one location via a threaded hose barb (see Figure 13). In order to avoid the use of fluid unions, the upper plate 102 is only permitted to rotate 360° to prevent the inlet line 108 from becoming unattached or twisted. The single inlet located in the upper plate 102 delivers the cells and medium directly to a pair of collection syringes 110 and 112 mounted on the lower plate 104. Collection in syringes (cylinders with movable pistons) has been chosen over collection in bags. Of course it is contemplated the cuvettes or other collection containers may be utilized as well. One sample syringe 110 is used to collect the medium while the other syringe 112 contains fixative used to preserve the cells such as formaldehyde or other chemical reagent. A pinch valve is opened, and the medium is forced into the collection syringe. Once the medium has been collected, the pinch valve for the fixative is opened, and fixative is forced over the cells. This technique lifts the cells off the filter to provide optimal cell fixation. Both syringes are easily removed to provide convenient access to the samples following an experiment.